

Miniaturized size of dual-band-meandered branch-line coupler for WLAN application

Abstract:

A new method of a dual-band miniaturized branch-line coupler (BLC) is presented with two widely separated bands ($f_2 > 2f_1$) for wireless local area network application. Partially meandered lines are used as the coupler's shunt arms; and are designed to operate at $f_1 = 2.45$ GHz and $f_2 = 5.8$ GHz. There are 65 and 90% reduction in circuit area compared to the previous research design. The output signal ports have an equal power split within measurement accuracy and 2° error at the resonant frequencies. The simulated and measured results are in good agreement, thereby verifying the design concept.